WILLERT HOME PRODUCTS
4044 PARK AVE.
ST. LOUIS, MO. 63110
314-772-2822
FAX 314-772-3506

REGARDING YOUR USE OF:

PRODUCT CODE: B-78

PRODUCT NAME: ENOZ CEDAR-IZE MOTH BAR

ATTACHED IS A MATERIAL SAFETY DATA SHEET (MSDS) FOR THE HAZARDOUS INGREDIENT IN THIS PRODUCT, AS FOLLOWS:

DESCRIPTION: PARADICHLOROBENZENE; 1,4 DICHLOROBENZENE

CHEMICAL ABSTRACTS SERVICES (C.A.S.) NUMBER: 106-46-7

PERCENT BY WEIGHT IN ABOVE PRODUCT: 99.4152

SOLUTIA™

Applied Chemistry, Creative Solutions

Material Safety Data Sheet

Responsible Care®
A Public Commitment

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SANTOCHLOR® PARA-DICHLOROBENZENE

MSDS Number 000106467 Date. February 3, 1999

Chemical Family: chlorinated aromatic
Chemical Name. 1,4-dichlorobenzene
Synonyms. 1,4-dichlorobenzene, PDCB, p-dichlorobenzene

EPA Registration No : Santochlor Molten - 71645-1
Santochlor 20 - 71645-2
Santochlor Flakes - 71645-2

SOLUTIA INC , 10300 OLIVE BOULEVARD, P O. BOX 66760, ST LOUIS, MO 63166-6760

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT
Call CHEMTREC - Day or Night - 1-800-424-9300 Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted)

For additional non-emergency information, call. 314-674-6661

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	% by weight
para-dichlorobenzene	106-46-7	99 9 - 100

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: white crystals with a penetrating "mothball" odor

Keep out of reach of children.

WARNING!
CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION
HARMFUL IF SWALLOWED
HOT MATERIAL CAN CAUSE THERMAL BURNS (For SANTOCHLOR Molten only)
COMBUSTIBLE VAPOR AND LIQUID.
EXCESSIVE EXPOSURE MAY CAUSE LIVER AND KIDNEY DAMAGE

POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: inhalation and skin contact

EYE CONTACT This product has been reported to produce pain in the eyes, but has not been reported to cause serious injury to the eyes. Minor eye irritation has been reported with exposure to this product in air at concentrations as low as 50 ppm.

SKIN CONTACT: This product produces a burning sensation when held in contact with skin, though injury to the skin is minimal..

INHALATION: Minor nasal irritation has been reported with exposure to this product in air at concentrations as low as 50 ppm. Exposure to this product abcve recommended airborne exposure limits may result in headache, swelling around the eyes, inflammation of the mucous membranes of the nose, loss of appetite, nausea and vomiting.

INGESTION This product is harmful if swallowed.

NOTE: Though composition data was limited, several reports in the literature indicate jaundice and liver toxicity as a result of overexposure Toxicity studies indicate high doses of this product to produce liver and kidney injury in laboratory animals

Refer to Section 11 for toxicological information.

4. FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention. Remove material from skin and clothing

IF ON SKIN, immediately flush with plenty of water Remove contaminated clothing Wash clothing before reuse. In case of contact with hot liquid, treat for thermal effects.

IF INHALED, remove to fresh air If not breathing, give artificial respiration. If breathing is difficult, give oxygen Get medical attention.

IF SWALLOWED, do NOT induce vomiting unless directed by medical personnel. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

5 FIRE FIGHTING MEASURES

Combustible solid or liquid.

FLASH POINT. 150 degrees F (65 degrees C) METHOD: Cleveland Open Cup

HAZARDOUS PRODUCTS OF COMBUSTION: If the product is burned, carbon monoxide (CO), carbon dioxide (CO_2), smoke, soot, chlorides and chlorine may be produced.

EXTINGUISHING MEDIA: In case of fire, use water spray (fog), foam, dry chemical, or CO_2.

UNUSUAL FIRE AND EXPLOSION HAZARDS. None known

FIRE FIGHTING EQUIPMENT. Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

6 ACCIDENTAL RELEASE MEASURES

In case of spill, sweep, scoop or vacuum and remove.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information

7 HANDLING AND STORAGE

Handling:
Do not get in eyes, on skin, or on clothing
Avoid breathing dust or vapors, or spray mist.
Use with adequate ventilation.
Avoid contact with hot liquid (For Molten Product Only)
Wash thoroughly with soap and water after handling.
Do not use or store near heat or open flame

Refer to Section 13 for product and container disposal

Storage: Product is stable under normal conditions of storage and handling. Keep away from strong oxidizing agents and strong reducing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION: Where there is significant potential for eye contact, wear chemical goggles and have eye flushing equipment available

SKIN PROTECTION: Wear appropriate protective clothing and chemical resistant gloves to prevent skin contact Consult glove manufacturer to determine appropriate type glove for given application Wear face shield and chemical resistant clothing such as a rubber apron when splashing is likely. Wash contaminated skin promptly Launder contaminated clothing and clean protective equipment before reuse Wash thoroughly after handling

RESPIRATORY PROTECTION: Avoid breathing vapor, mist or dust. Use NIOSH/MSHA approved respiratory protection equipment (full facepiece recommended) when airborne exposure limits are exceeded (see below) If used, full facepiece replaces need for face shield and/or chemical goggles Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer Respiratory protection programs must comply with 29 CFR 1910.134.

VENTILATION: Provide ventilation to control exposure levels below airborne exposure limits Use local mechanical exhaust ventilation at sources of air contamination such as open process equipment Consult NFPA Standard 91 for design of exhaust systems

AIRBORNE EXPOSURE LIMITS:

Product/Component	OSHA PEL	ACGIH TLV
para-dichlorobenzene	75 ppm 8-hour TWA	10 ppm (A3) 8-hour TWA

9 PHYSICAL AND CHEMICAL PROPERTIES

Chemical Formula.	$C_6H_4Cl_2$
Appearance:	white crystals
Odor:	penetrating "mothball" odor
Boiling Point:	174 degrees C (345.2 degrees F)
Melting Point:	53 degrees C (127 4 degrees F)
Specific Gravity:	1.458 @ 20/4 degrees C
Solubility in Water.:	0.008 @ 25 degrees C, % by wt
Vapor Pressure:	0.6 mm Hg @ 20 degrees C (68 degrees F)
Vapor Density:	5.1 (Air = 1)

NOTE. These physical data are typical values based on material tested but may vary from sample to sample Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

STABILITY Product is stable under ordinary conditions of storage and handling

MATERIALS TO AVOID: Strong oxidizing agents and strong reducing agents

HAZARDOUS DECOMPOSITION PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Does not occur

11 TOXICOLOGICAL INFORMATION

Data from laboratory studies conducted by Solutia and from the scientific literature are summarized below:

Single exposure (acute) studies indicate:

Oral - Slightly Toxic (Rat LD_{50} 3,826 mg/kg); FIFRA Category III
Dermal - Practically Nontoxic (Rabbit LD_{50} >5,010 mg/kg), FIFRA Category IV
Vapor Inhalation - Practically Nontoxic (Rat 4-hr LC_{50} >6.0 mg/l), FIFRA Category IV
Eye Irritation - Draize Average 13 7/110 clearing in 13 days, moderate irritation (Rabbit); FIFRA Category II
Skin Irritation - Slightly Irritating (Rabbit, 4-hr exposure, 2.9/8.0), FIFRA Category III

Repeated inhalation studies (up to 14 weeks) with this product, conducted in rats, rabbits, guinea pigs and dogs, have resulted in liver and kidney toxicity, lung effects, reversible eye changes (rabbits only), reduced body weights and number of white blood cells, clinical signs and animal deaths at high exposure levels, while no effects were reported in mice or monkeys. No structural or behavioral effects suggestive of neurotoxicity were noted in rats following repeated exposure to this product by inhalation for 13 weeks. No adverse effects were observed in rats following repeated skin exposure (3-weeks) to this product. In repeat oral dosing studies (4 to 31 weeks), rodents given this product exhibited changes in body weight, some organ weights and clinical parameters, porphyria and kidney damage (male rats only) with liver toxicity. Changes in bone marrow, spleen, thymus and nasal turbinates were also observed in rats at dosages which produced some deaths.

Long-term inhalation exposure of rodents (57 and 76 weeks for rats and mice, respectively) did not produce an increase in tumors; liver and kidney weights and urine coproporphyrin were increased at the highest exposure level. In long-term oral dosing studies with rats and mice (2-year) conducted by the National Toxicology Program (NTP), reduced survival and body weights with tumors of the kidney (male rat only) and liver (male and female mice), as well as kidney damage in rat and changes in mouse liver, thyroid and adrenal gland were observed. Mechanistic data suggest that this product produces kidney tumors via a special mechanism unique to the male rat. These data show hyaline droplet kidney toxicity in the male rat only. This toxic response is considered to result from reaction of this product and/or its metabolite (2,5-dichlorophenol) with alpha-2m-globulin, a protein unique to the male rat (not found in female rats, mice or humans). The mechanism of male rat kidney tumor formation is considered to be secondary to the interaction of this product and alpha-2m-globulin.

No birth defects were noted in rats given this product orally during pregnancy, even at amounts which produced adverse effects on the mothers and their offspring Exposure of pregnant rats and rabbits to this product by inhalation produced no increase in treatment-related birth defects. No effects were seen on the ability of male or female rats to reproduce when exposed to this product by inhalation for 2 successive generations; kidney toxicity (male rat only) and liver toxicity with reductions in body weight and pup survival during days 0-4 of nursing were observed

This product has generally produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells A positive response was reported in one assay using animals and mixed responses were reported in another assay using animal cells. This product has been shown to bind to nucleic acids in mouse organs, but not to bind to nucleic acids in rat organs, and to increase cell replication in male rat kidneys.

Additional Information
Excretion of dichlorophenol, a metabolite of this product, in urine of workers has occurred after exposure to this product. The presence of dichlorophenol in the urine is revealed by its distinctive odor Prolonged exposure to this product produces a noticeable odor in urine of workers

This product is listed as a substance that "may reasonably be anticipated to be" carcinogenic by NTP in their Seventh Annual Report on Carcinogens and is classified as "possibly carcinogenic to humans" by the International Agency for Research on Cancer (IARC Monographs, Vol. 29). The NTP and IARC listings are based on their determination that there is inadequate evidence for the carcinogenicity of this product in humans and sufficient evidence for the carcinogenicity of this product in experimental animals

These listings are based exclusively on studies which found kidney tumors in male rats and liver tumors in male and female mice There is a large body of scientific evidence beyond these studies which conclusively demonstrates the tumor findings have only minimal relevance to humans Many regulatory and advisory groups throughout the world, such as the U S Environmental Protection Agency (EPA), the U.S. Consumer Product Safety Commission (CPSC), and the World Health Organization's International Program for Chemical Safety (IPCS), have reached this conclusion after comprehensive review of the entire body of scientific evidence addressing the health effects of this product EPA, for example, rejected a proposal to classify this product as a "probable" human carcinogen and decided that the less restrictive "possible" classification was warranted CPSC more recently concluded that this product should not be treated as a "toxic" or "hazardous" product under federal law.

This product is also listed as a carcinogen under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

12. ECOLOGICAL INFORMATION

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity A legend summarizing the classification scheme appears below.

48-hr EC50 Daphnia magna: 7.4 mg/L; Toxic

96-hr LC50 Fathead minnow: 4.2 - 30 mg/L; Harmful to Toxic

96-hr LC50 Rainbow trout: 1.12 mg/L; Toxic

96-hr EC50 Algae (growth): 1.6 mg/L; Toxic

This product is toxic to Daphnia magna, harmful to toxic to fish, and toxic to algae. Biodegradation tests suggest that this material would meet the OECD guidelines for classification as "inherently biodegradable".

Legend for Aquatic Organism Toxicity (Journal of the European Communities, Annex VII A, Section 5 2 1)

Values	Classifications
LC50 or EC50 < or = 1.0 mg/L	Very Toxic
LC50 or EC50 > 1 0 mg/L and < or = 10 mg/L	Toxic
LC50 or EC50 > 10 mg/L and < or = 100 mg/L	Harmful
LC50 or EC50 > 100 mg/L	Practically Nontoxic

13. DISPOSAL CONSIDERATIONS

Product Disposal·
This material when discarded is listed as a hazardous waste by the Resource Conservation and Recovery Act (RCRA), 40 CFR 261 33, "Identification and Listing of Hazardous Waste", EPA hazardous waste number U072. Best Demonstrated Available Treatment (BDAT) as defined by RCRA for disposal of this product is by incineration Dispose of in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal.

Pesticide Disposal
Pesticide wastes are toxic Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to directions for use, contact your state pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance

Container Disposal·
Completely empty bags into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or if allowed by State and local authorities, by burning If burned, stay out of smoke Emptied container retains vapor and product residue Observe all labeled safeguards until container is destroyed

14. TRANSPORT INFORMATION

The data provided in this section is for information only Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT Class	Environmentally Hazardous Substances, solid, n o.s., (para-Dichlorobenzene),9, UN3077, III *
US DOT Label·	Class 9*
US DOT RQ·	Packages of 100 lbs or more contain a RQ of p-dichlorobenzene
Special Provisions:	This material meets the definition of a Marine Pollutant
IATA/ICAO:	Aviation regulated solid, n.o.s. (p-dichlorobenzene), 9, UN3335
IMDG Code:	See US DOT

* Applies ONLY in packages of 100 lb or more or for shipments via water.

15. REGULATORY INFORMATION

TSCA Inventory: Listed

SARA Hazard Notification
Hazard Categories Under Title III Rules (40 CFR 370)· Immediate, delayed, fire
Section 302 Extremely Hazardous Substances: Not Applicable
Section 313 Toxic Chemical(s): para-dichlorobenzene

CERCLA Reportable Quantity: 100 lb RQ of para-dichlorobenzene

Release of more than 100 pounds of this product to the environment in a 24 hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675).

California Proposition 65 The state of California's Safe Drinking Water and Toxic Enforcement Act of 1986 requires the following label on this product WARNING! This product contains chemicals known to the state of California to cause cancer.

This product is considered a hazardous chemical under OSHA

Refer to Section 13 for RCRA classification.

16 OTHER INFORMATION

Reason for revision. Modification of transportation classification Supersedes MSDS dated 08/04/98